Vehicle Dynamic Control Strategy of Automated Driving

[For Safer and More Comfortable Automated Driving Technology]

Corporate Sponsored Research Programs

Dynamics and Control of Vehicle
Human-Machine Systems
Mechano-Informatic Mobility Engineering

Sponsored by JTEKT Corporation

Vehicle Dynamic Control

Robust Control against Disturbance and Modeling Error

Towards the Evolution of Automated Driving

Centaur
Unity with a car like extending four limbs
ADAS
Rider and Horse
AD Vehicle
Driver

Realization of

Unity of Driver-Vehicle
(Rider-Horse)

Vehicle stability control utilizing four-wheel independent braking/driving force control by in-wheel motors

Expand ODD
(Operational Design Domain)

Hand signal recognition

Detecting road safety mirrors and events inside the mirror

Environment and Driver Monitoring using Cameras and Biological Sensors

Sensing

Lower Implementation Cost

HMI
Human-Machine Interface

HMI to Encourage Driver’s Spontaneous Behavioral Change

Driving simulator experiment

Vehicle Dynamic Function for Automated Driving (AD) fusing
- Human-Machine System
- AI and Other Advanced Technology

More Reliability in AD
Affluent Society where People Can Move Safely in Peace

Academic Contribution

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Vehicle Dynamic Control, HMI, Sensing

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